

glanduloso-puberulis; capitulis globosis 5 mm. longis latisque griseis.

Small caulescent herb, decidedly glandulose-sticky; stems erect, to 4 cm. tall, densely leafy; basal leaves numerous, recurved, linear, 1.5--3 cm. long, almost 1 mm. wide, flat, not fenestrate, pilose at the base, otherwise glabrous, the cauline leaves shorter, ascending, imbricate, 1--1.5 cm. long, acute at the apex, rather densely glandulose-puberulent on both surfaces; peduncles very numerous, 5--8 cm. long, 2-costate and 2-sulcate, sparsely glandular-puberulous; sheaths about 2 cm. long, closely appressed to the peduncle, densely glandular-puberulent with divergent brownish hairs, obliquely acute at the apex; heads (in fruit) globose, gray, about 5 mm. long and wide, densely many-flowered; bractlets and pistillate florets uniformly gray-scarious or whitish, the perianth parts (in fruit) firm, distinct and erect.

The type of this distinct species was collected by R. Arlé (no. 1) at Igarapé Tutuari, near Porto Capitão Vasconcelos, Alto Xingu, Matto Grosso, Brazil, in June, 1961, and is deposited in the H. N. Moldenke Herbarium at Yonkers, New York.

*VERBENA HASTATA* f. *CAERULEA* Moldenke, f. nov.

Haec forma a forma typica speciei corollis pallide caeruleis recedit.

This form differs from the typical form of the species in having pale-blue corollas.

The type of the form was collected by Andrew Ralph Moldenke (no. 1043) in a moist swale at Amherstburg, Essex County, Ontario, Canada, on August 28, 1964, and is deposited in the H. N. Moldenke Herbarium at Yonkers, New York. There were about 6 husky plants of this distinct color form growing among 100 of the normal form and 30 of f. *rosea* Cheney.

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## MATERIALS TOWARD A MONOGRAPH OF THE GENUS VERBENA. XXII

Harold N. Moldenke

*VERBENA PERUVIANA* var. *GLABRIUSCULA* Kuntze

Additional bibliography: Moldenke, *Phytologia* 3: 289 (1950) and 3: 467. 1951; Moldenke, *Résumé* 120, 128, 224, & 473. 1959; Moldenke, *Résumé Suppl.* 5: 8. 1962.

This variety differs from the typical form of the species in having almost smooth leaves.

The type of the variety was collected by Rodolfo Hauthals (no. 52) at Sierra Ventana, Buenos Aires, Argentina. The plant has been found in dry grassy places and in fields at 250 meters altitude, flowering in April and from October to December. The corolla is described as red, blood-red, fire-red, or carmine. A

common name, "margarita colorada", has been recorded for the plant. It has been misidentified and distributed in herbaria under the names V. chamaedryfolia Juss. and V. chamaedryfolia Juss. It was introduced into cultivation in Belgium in or before the year 1839.

In all, 15 herbarium specimens have been examined by me, including the type of the synonym, which was collected by Martin Martens in cultivation in the botanical garden at Louvain, Belgium, in 1839, and is deposited in the herbarium of the Jardin Botanique de l'Etat at Brussels.

Citations: URUGUAY: Arechavaleta s.n. [Cerro Largo] (Ug); Berro 4750 (N), 6247 (N), 6718 (N). ARGENTINA: Buenos Aires: Cabrerá 10718 (Mv); Osten 2654 (N, Ug); Pedersen 355 (W--2122395); Wall & Sparre s.n. [Balcarce, 2/11/46] (Ew, Ew, Ew, N). CULTIVATED: Belgium: M. Martens s.n. [h. b. Lov. 1839] (Br), s.n. [hort. Cols.] (Br, Br).

VERBENA PERUVIANA f. ROSEA Moldenke, Phytologia 2: 324. 1947

Synonymy: Verbena chamaedryfolia var. rosea Osten ex Moldenke, Alph. List Invalid Names Suppl. 1: 23, in syn. 1947. Verbena chamaedryfolia var. melindres f. siccanea lus. roseiflora Osten ex Moldenke, Alph. List Invalid Names Suppl. 1: 23, in syn. 1947. Verbena chamaedryfolia var. melindres f. siccanea lus. roseifolia Osten ex Moldenke, Résumé 362, in syn., sphalm. 1959. Verbena chamaedryfolia  $\alpha$  melindres rosiflora Osten ex Moldenke, Résumé 362, in syn. 1959. Verbena peruviana var. rosea Moldenke, Résumé 372, in syn. 1959.

Bibliography: Maund & Henslow, Botanist 3: pl. 129. 1839; Moldenke, Phytologia 2: 324 & 337. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 100 & 199. 1949; Moldenke, Alph. List Cit. 3: 780. 1949; Moldenke, Phytologia 3: 467 (1951) and 4: 188. 1953; Reitz, Sellowia 6: 254 & 257 (1954) and 11: 57 & 134. 1959; Moldenke, Résumé 100, 120, 224, 362, 372, & 473. 1959; Reitz, Sellowia 13: 67. 1961; Moldenke, Résumé Suppl. 5: 7. 1962.

Illustrations: Maund & Henslow, Botanist 3: pl. 129, in part [in color]. 1839.

This form differs from the typical form of the species in having pink or rose-colored corollas [Saccardo 17] instead of bright-scarlet.

The type of the form was collected by Cornelius Osten (no. 3197) at Arroyo Grande, in the department of Soriano, Uruguay, on October 3, 1895, and is deposited in the herbarium of the Museo de Historia Natural at Montevideo. The various Osten designations are also based on this same collection; on the sheet of 4195 Osten has written "Verbena chamaedryfolia floribus roseis (forma teratologica?)" and comments that the plant was growing with the typical form in grassy places at Colon, near Montevideo, on October 2, 1900. He later made this specimen the type of his V. chamaedryfolia ( $\alpha$  melindres rosiflora, deposited in the herbarium of the Museo de His-

toria Natural at Montevideo.

The rose-colored spray shown by Maund & Henslow (1839) is apparently this form; it is there called a form of V. chamaedryfolia var. elfordiana Benth.

The plant has been collected in "restinga litoranea", at 1400 meters altitude, blooming in October and December. Common names recorded for it are "camaradinha", "formosa sem dote", and "jurupeba". Reitz & Klein 8168 has elongated petioles, but is otherwise identical with nos. 7436 and 7451; these all look very much like dwarf examples of V. phlogiflora Cham., but the calyx is much shorter.

In all, 7 herbarium specimens, including the types of all the names involved, have been examined by me.

Citations: BRAZIL: Santa Catarina: Reitz & Klein 155 [Herb. Reitz 4703] (N, S, W--2141539), 7436 (Z), 7451 (Mm), 8168 (Mm). URUGUAY: Osten 3197 (Ug--type), 4195, in part (Ug).

VERBENA PHLOGIFLORA Cham., Linnaea 7: 266--267. 1832.

Synonymy: ?Verbena cunha Vell., Fl. Flum. 17--18. 1825. ?Verbena cunea Vell., Fl. Flum. Icon. 1: pl. 41. 1827. Verbena phlogiflora ♂ Cham., Linnaea 7: 266. 1832. Verbena tweediana Niven ex Hook. in Curtis, Bot. Mag. 63: pl. 3541. 1836. Verbena tweediana Hook. ex Maund & Henslow, Botanist 2: pl. 60. 1838. Verbena tweediana Hook. ex Steud., Nom. Bot., ed. 2, 2: 751. 1841. ?Verbena cunea Arrab. ex Steud., Nom. Bot., ed. 2, 2: 750. 1841. Verbena caerulescens Hort., Floricult. Cab. 10: 218. 1842. Verbena phlogiflora ♀ canescenti-hirtello-sabra Walp., Repert. 4: 26. 1845. Verbena tweediana Niven ex Walp., Repert. 4: 28. 1845. Verbena phlogiflora ♂ vulgaris Schau. in A. DC., Prodr. 11: 537. 1847. Verbena phlogifera Cham. ex Rttmpler in Vilm., Illustr. Blumeng., ed. 1, 1263. 1873. Verbena megapotamica ? tweediana Kuntze, Rev. Gen. Pl. 3 (2): 256. 1898. Verbena phlogiflora var. truncatula Briq., Ann. Conserv. & Jard. Bot. Genève. 7-8: 289. 1904. Verbena phlogiflora var. ♀ Cham. ex Briq., Arkiv Bot. Stockh. 2 (10): 7, in syn. (1904) and Ann. Conserv. & Jard. Bot. Genève. 7-8: 288, in syn. 1904. Verbena megapotamica var. tweediana Kuntze ex Briq., Arkiv Bot. Stockh. 2 (10): 7--8 (1904) and Ann. Conserv. & Jard. Bot. Genève. 7-8: 288. 1904. Verbena megapotamica var. tweediana f. truncatula Briq., Arkiv. Bot. Stockh. 2 (10): 8. 1904. Verbena phlogiflora var. vulgaris Schau. ex Briq., Arkiv. Bot. Stockh. 2 (10): 8, in syn. 1904. Verbena megapotamica var. tweediana Kuntze ex Sectt., Rev. Univ. Nac. Cordoba 17: 90. 1930. Verbena phlogiflora var. tweediana (Niven) Kuntze ex Moldenke, Suppl. List Invalid Names 9, in syn. 1941. Verbena phlogiflora var. tweediana f. truncatula (Briq.) Briq. ex Moldenke, Suppl. List Invalid Names 10, in

syn. 1941. Verbena megapotamica var. tweediana (Niven) Kuntze ex Moldenke, Alph. List Invalid Names 43, in syn. 1942. Verbena phlogiphora Cham. ex Schnack, Anal. Inst. Titotéc. Sta. Catalina 4: 19--21. 1942. Glandularia phlogiphora (Cham.) Covas & Schnack, Darwiniana 6: 475. 1944. Glandularia phlogiflora (Cham.) Schnack & Covas apud J. A. Clark, Card Ind. Gray Herb. issue 183. 1944. Verbena megapotamica var. phlogiflora (Cham.) Kuntze ex Moldenke, Alph. List Invalid Names Suppl. 1: 25, in syn. 1947. Verbena nielli Martens ex Moldenke, Alph. List Invalid Names Suppl. 1: 25, in syn. 1947. Glandularia phlogiphora (Cham.) Schnack & Covas ex Moldenke, Résumé 296, in syn. 1959. Verbena phlogiflora Cham. & Schlecht. ex Moldenke, Résumé 372, in syn. 1959. Verbena phlogiflora var. mucilata Schau. ex Moldenke, Résumé 372, in syn. 1959. Verbena cunea Auct. ex Moldenke, Résumé Suppl. 5: 7. 1962.

Bibliography: Vell., Fl. Flum. 17--18. 1825; Vell., Fl. Flum. Icon. 1: pl. 41. 1827; Cham., Linnaea 7: 266--267. 1832; Hook. in Curtis, Bot. Mag. 63: pl. 3541. 1836; Sweet, Brit. Fl. Gard. 7 [ser. 2, 4]: pl. 391. 1837; Floricult. Cab. 5: 24 (1837) and 6: 47. 1833; Paxt., Mag. Bot. 4: 5. 1833; Journ. Jard. 1833: 216. 1833; Maund & Menslow, Botanist 2: pl. 60. 1833; G. Don in Loud., Hort. Brit. Suppl. 2: 680. 1839; Meisn., Pl. Vasc. Gen. 2: 198. 1839; Steud., Nom. Bot., ed. 2, 2: 750 & 751. 1841; Floricult. Cab. 10: 218. 1842; D. Dietr., Syn. Pl. 3: 602. 1843; J. W. Loud., Ladies' Fl.-Gard. Ornam. Perenn. 2: pl. 91. 1844; Walp., Repert. 4: 26 & 23--29. 1845; Schau. in A. DC., Prodr. 11: 537--538. 1847; Schau. in Mart., Fl. Bras. 9: 182. 1851; Regel, Gartenfl. 23: 372. 1879; J. Ball, Notes Naturalist 293. 1837; Briq. in Engl. & Prantl, Nat. Pflanzenfam. 4 (3a): 147. 1894; L. H. Bailey in A. Gray, Field Forest & Gard. Bot. 341. 1895; Hook. f. & Jacks, Ind. Kew. 2: 1173--1180. 1895; Kuntze, Rev. Gen. Pl. 3 (2): 256. 1898; Chod., Bull. Herb. Boiss., sér. 2, 2: 818. 1902; Chod., Plant. Hassler. 9: 197. 1902; L. H. Bailey, Cycl. Amer. Hort., ed. 1, 6: 1912, pl. 2649. 1902; Briq., Arkiv Bot. Stockh. 2 (10): 7--9. 1904; Briq., Ann. Conserv. & Jard. Bot. Genève. 7-8: 288--289. 1904; Briq. in Chod. & Hassler, Bull. Herb. Boiss., sér. 2, 4: 1061. 1904; Briq. in Chod. & Hassler, Plant. Hassler. 10: 477. 1904; L. H. Bailey, Cycl. Amer. Hort., ed. 4, 6: 1912, pl. 2649. 1906; P. Henderson, Handb. Pl., new ed., 475. 1910; Hicken, Chlor. Plat. Argent. 197. 1910; L. H. Bailey, Stand. Cycl. Hort. 6: 3445, pl. 3910. 1917; C. L. Pollard in Webster's New Internat. Dict. Eng. Lang. 2275. 1917; Makino, Ill. Flora Japan [215]. 1924; Hegi, Illustr. Fl. Mittel-Eur. 5 (3): 2240. 1927; Herter, Florula 105. 1930; Seckt, Rev. Univ. Nac. Cordoba 17: 90. 1930; Stapf, Ind. Lond. 6: 429--431. 1931; Terasaki, Nippon Shokubutsu Zufu [Jap. Bot. Illustr. Album] 1020. 1933; Herter, Estud. Bot. Reg. Urug. 5a: 160. 1933; Parodi, Revist. Argent. Agron. 1: 202. 1934; Junell, Symb. Bot. Upsal. 4: 11, 171, & 210. 1934; L. H. & E. Z. Bailey, Hortus, new rev. ed., 632. 1935; Troncoso, Darwiniana 3: 53 & 55. 1937; Herter, Revist. Sudam. Bot. 4: 186--187. 1937; Mol-

denke, *Cult. Pl.* 35. 1938; Beale, *Chron. Bot.* 5: 517. 1939; Moldenke, *Annot. & Classif. List* 108. 1939; Beale, *Journ. Genet.* 40: 338, 340, 348, 354, & 355. 1940; Moldenke, *Suppl. List Invalid Names* 8--10. 1941; Worsdell, *Ind. Lond. Suppl.* 2: 436. 1941; Schnack, *Anal. Inst. Fitotéc. Sta. Catalina* 4: 19--21. 1942; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 1], 25, 39, 41, 44, 74, & 102. 1942; Moldenke, *Alph. List Invalid Names* 46, 48, 49, & 51. 1942; Herter, *Revist. Sudam. Bot.* 7: 225. 1943; Parodi, *Darwiniana* 6: 150 & 175. 1943; Sampaio & Peckolt, *Arquiv. Mus. Nac. Rio Jan.* 37: 392. 1943; J. A. Clark, *Card Ind. Gray Herb.* issue 183. 1944; Covas & Schnack, *Darwiniana* 6: 475. 1944; Schnack & Covas, *Darwiniana* 6: 471--473. 1944; Cabrera & Dawson, *Rev. Mus. La Plata, new ser., sec. bot.*, 5: 357 & 381. 1944; Schnack & Covas, *Darwiniana* 7: 71--75, pl. 3 E & 4 G. 1945; *Indice Taxon.* 1 (14--16): 6. 1945; Cabrera, *Bol. Arg. Soc. Bot.* 1: 67. 1945; Covas & Schnack, *Darwiniana* 7: 86 & 88. 1945; Moldenke, *Phytologia* 2: 69 & 116. 1945; Augusto, *Fl. Rio Grande do Sul* 209 & 232. 1946; Moldenke, *Alph. List Cit.* 1: 12, 21, 22, 28, 83, 104, 135, 195, 201, 208, 264, 265, & 289. 1946; Moldenke, *Alph. List Invalid Names Suppl.* 1: 10, 23, 25, & 27. 1947; Moldenke, *Phytologia* 2: 343 (1947) and 2: 425. 1948; Moldenke, *Castanea* 13: 117. 1948; H. N. & A. L. Moldenke, *Pl. Life* 2: 86. 1948; Moldenke, *Alph. List Cit.* 2: 363, 364, 367, 369--371, 375, 413, 463, 467, 534, 551, 561, 624, & 628 (1948), 3: 660, 663, 665, 670, 696, 704, 708, 745, 747, 750, 751, 781, 783, 798, 814, 845, 848, 849, 863, 869, 876, 889, 916, 921, & 969 (1949), and 4: 1072, 1081, 1123, 1124, 1204, 1250, 1251, 1256, & 1288. 1949; H. N. & A. L. Moldenke, *Anal. Inst. Biol. Mex.* 20: 14. 1949; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 45, 94, 99, 100, 106, 164, & 199. 1949; Moldenke, *Phytologia* 3: 136 (1949) and 3: 467. 1951; Moldenke in Chittenden, *Roy. Hort. Soc. Dict. Gard.* 4: 2208--2210 & 2212. 1951; Stellfeld, *Trib. Farmac.* 19 (10): 167 & 172. 1951; E. J. Salisb., *Ind. Kew. Suppl.* 11: 101. 1953; Rambo, *Sellowia* 6: 60 & 84. 1954; Moldenke, *Inform. Mold. Set* 48 *Spec.* [4]. 1954; Moldenke, *Phytologia* 5: 96 (1954) and 5: 132 & 133. 1955; Rambo, *Sellowia* 7: 260. 1956; Moldenke in Humbert, *Fl. Madag.* 174: 8. 1956; Moldenke, *Biol. Abstr.* 30: 1093. 1957; Angely, *Fl. Paran.* 7: 13. 1957; Alain in León & Alain, *Fl. Cuba* 4: 281 & 282. 1957; Moldenke, *Am. Midl. Nat.* 59: 344, 346, & 350. 1958; Moldenke, *Résumé* 53, 110, 118, 120, 128, 224, 296, 358, 360, 363, 369, 370, 372, 377, 421, & 473. 1959; Reitz, *Sellowia* 11: 57. 1959; Remón, *Levant. Herb. Inst. Agron. Minas* 151. 1960; Moldenke, *Résumé Suppl.* 2: 12 & 13. 1960; Angely, *Fl. Paran.* 16: 79 (1960) and 17: 46. 1961; Moldenke, *Phytologia* 8: 120 & 123 (1961) and 8: 435. 1962; Nair & Rehman, *Bull. Nat. Bot. Gard. Lucknow* 76: 3, 4, & 23, pl. 1 (1), fig. 1. 1962; Moldenke, *Résumé Suppl.* 5: 7 (1962) and 6: 7 & 11. 1963; Moldenke, *Phytologia* 9: 40, 76, 177, 190, 315, 330, 333, 334, & 336 (1963), 9: 362, 364, 365, 367, & 388 (1963), and 10: 160, 174, & 175. 1964; Moldenke, *Résumé Suppl.* 8: 6 (1964) and 10: 130 & 132--134. 1964.

Illustrations: Vell., *Fl. Flum. Icon.* 1: pl. 41. 1827; Curtis, *Bot. Mag.* 63: pl. 3541 [in color]. 1836; J. Harrison, *Floricult.*

Cab. 5: 24 [in color]. 1837; Sweet, Brit. Fl. Gard. 7 [ser. 2, 4]: pl. 391 [in color]. 1837; Maund & Henslow, Botanist 2: pl. 60 [in color]. 1838; Journ. Jard. 1838: 216 [in color]. 1838; Paxt., Mag. Bot. 4: 5 [in color]. 1838; Floricult. Cab. 10: 218 [in color]. 1842; J. W. Loud., Ladies' Fl.-Gard. Ornam. Perenn. 2: pl. 91 [in color]. 1844; L. H. Bailey, Cycl. Amer. Hort., ed. 1, 6: 1912, pl. 2649 (1902) and ed. 4, 6: 1912, pl. 2649. 1906; L. H. Bailey, Stand. Cycl. Hort. 6: 3445, pl. 3910. 1917; Makino, Ill. Flora Japan [215]. 1924; Terasaki, Nippon Shokubutsu Zufu [Jap. Bot. Illustr. Album] 1020. 1933; Schnack & Covas, Darwiniana 7: pl. 4 G. 1945; Mair & Rehman, Bull. Nat. Bot. Gard. Lucknow 76: 3, fig. 1, pl. 1 (1). 1962.

Annual or perennial, low, creeping herb, 30--70 cm. tall, or semi-creeping or climbing subshrub to 2 m. tall, usually sprawling, with hirtellous-scabrous subcanescent pubescence; stems not stoloniferous, creeping or ascending to erect, 80 cm. to 2 m. long; branches numerous, tetragonal, wide-spreading or erect, to 3 m. long, retrorsely hirsutulous; leaves decussate-opposite, petiolate; leaf-blades oblong or lanceolate to lanceolate-triangular, to 9 cm. long and 4 cm. wide, acute at the apex, cuneate and narrowed into the petiole at the base or sometimes subtruncate, unequally subincised-serrate along the margins except for the entire basal prolongation, strigose above, hirtous or substrigillose-hirtellous beneath, somewhat revolute along the margins, the venation rugose-elevated beneath; inflorescence terminal, spicate; spikes pedunculate, solitary, densely congested-capitate, many-flowered, not elongating after anthesis; bractlets subulate-lanceolate or short-ovate, about half as long as the calyx; flowers very showy; calyx 11--14 mm. long, retrorsely hirtellous, with interspersed stipitate and subpelitate glands, the teeth ovate, acuminate; corolla hypocrateriform, showy, varying from blue, blue-lilac, blue-purple, blue-violet, or rosy-blue to lilac, dull-lilac, purple-lilac, violet-lilac, violet, purple, or even rose or pink [red or red-vermillion according to Moench], sometimes described as "violet-purple above, pale-lavender below", "bright violet-rose when fresh", or "rose on the edges, violet in the center", glabrous on the outer surface, its tube 1.6--2.5 cm. long, the limb mostly lilac, to 2 cm. wide, violet and black-glandulose in the center, the throat covered with violet hairs, the lobes emarginate; chromosome number:  $2n = 10$ .

This species is apparently based on several Sellow collections from Brazil, originally deposited in the herbarium of the Botanisches Museum at Berlin, now destroyed. Chamisso's original statement is "F. Brasilia meridionali misit Sellowius pluribus locis lectam semper paululum variantem.....Herba habitu fere Eidentium nostrorum, at inflorescentiis terminalibus superbiens divitissimis paniculam amplissimam Phlogis paniculatae simulans...in variet. < calyx 6 1/2 lineas, tubus corollinus 10 1/2 lineas metiebatur."

The description and illustration of Velloso's V. Cunha are so inadequate that it is not possible to say with certainty that his

plant is conspecific with the one here under discussion. If the two are really conspecific, then his name has priority and must be adopted for the species.

The F. C. Hoehne collections cited hereinafter have statements on their labels to the effect that the corolla is red or red-vermillion. This is most amazing for this species, and I wonder if the statements are not perhaps due to a faulty recollection or a confusion with specimens of *V. incisa* Hook. or *V. peruviana* (L.) Britton perhaps collected at the same time and place. Bailey states in a note on his no. 386 that the anthers are "not appendaged". The var. *arraniana* is said by horticulturists to differ in having uniformly purple corollas, and the lower leaves broader, less attenuate at the base and less acutely pointed at the apex. The name, *V. arraniana* Hort., was reduced to synonymy under *V. phlogiflora* by me in my *Résumé* 358 (1959), but it apparently belongs instead to the synonymy of *V. incisa* Hook.

Schauer (1851) distinguishes his two varieties as follows: var. *vulgaris* -- "pube hirtella scabra subcanescens, caulibus gracilibus decumbentibus; ramis patentissimis diffusis adscendentibus-erectis; spicis terminalibus solitariis; bracteis subulato-lanceolatis calyce duplo et quod excedit brevioribus." Var. *macilenta* -- "major, pube strigosa tenuissima raraque adspectu glabra; caulibus herbaceis, fistulosis, ramosissimis, erectis; spicis ad apicem ramorum saepe ternis, longe pedunculatis, simplicibus vel uno alterove pari ad basin primariae subsessilis accedente cymoso-paniculatis." His var. *vulgaris* I regard as typical *V. phlogiflora*, while his var. *macilenta* I regard as typical *V. megapotamica* Spreng. His composite descriptive notes are given herewith: "Planta ex loco innumeris modis varians. Forma  $\alpha$  habitu *Verbena chamaedryfoliae* et affinum manifesto accedit; forma  $\beta$  vero cum  $\alpha$  forma primarium ab illis primo obtutu abhorreere videtur, accuratius inspecta tamen nulla nota graviore recedit, et pro forma uberrime vegetante recognoscitur. -- Caulis decumbens v. erectus 2--6 pedalis (ex Riedelio) internodia modo elongata, modo foliis breviora. Spicae jam longe jam breviter immo brevissime pedunculatae. Flores arrecti. Calyx tubulosus 5 1/2 lineas longus, plicis s. valleculis ut in affinibus, membranaceis, costis herbaceis et in dentes ovatos acuminatos conspicue inaequales excurrentibus, inter pubem simplicem glandulis rubicundis stipitatis consistus, post anthesin tortus. Corolla in silvestri testi collecta lilacina vel coerulescens, extus glabra, intus superne et ad faucem villosa et barbata; fauce staminifera; tubo cylindrico 8--9 lin. longo; limbo amplo 5-fido, laciniis emarginatis. Stylus et fructus *Verbenae teucroidis*. -- Similis *V. chamaedryfoliae* sed jam statura validiore ramisque erectis diversa, praeteraque foliis latioribus manifesto petiolatis, floribus majoribus, corolla magis purpurea quam scarlatina. Crescit in campis Brasiliae meridionalis et in provincia Minarum, ad Brandahy alibique: Sellow; ad Formigas: Pohl; pr. Villa das Caldas: Regnell; ad Congonhas do Campo: Stephan; in provincia S.

Pauli ad Ypanema, Januario: Mart.; in locis humidiusculis umbrosis pr. Postinho, Martio, et in locis siccis pr. Penha, Septembri, nec non in umbrosis humidis circa Batatoes et Araracoara, Majo: Riedel, Lund; in province Rio Grande do Sul: Arsene Isabelle ex Gill. et Hook.; in paludosis ad Laguna de la Molina in civitate Uruguay teste Tweedie ex Hook."

Osten, in a long memorandum written at Montevideo in January, 1931, says: "Die Arbeiten von Chodat (Plantae Hasslerianae) und Briquet so weit sie die Sectio 'Mobiles' Schauer betreffen, sind voll von Irrthumern. Ich habe Briquet von 2 Jahren eine grossere Sammlung von Verbenen gesandt mit meinen Bemerkungen, habe aber nicht einmal Empfangsanzeige erhalten. An Hassler sandte ebenfalls, habe von ihm schriftlich die Nachricht, dass er mit meinen Ansichten übereinstimmt (Hassler ist augenblicklich in San Bernardino, ich habe ihn leider nicht sehen können).

"Briquet behauptet, dass V. chamaedryfolia in Paraguay nicht vorkomme. Das ist richtig soweit es sich um V. Melindres Gill. handelt. V. melindroides Cham. habe ich von Misiones und dürfte sie am Alto Paraná jedenfalls auch in Paraguay vorkommen. Wenn man aber die rotblühenden Formen der Nobiles zu einer sp. coll. (turma, grex) V. chamaedr. zusammenfasst, so gehört diese Form 8046 jedenfalls dazu. Ich habe hier in Uruguay, in Paraguay, in Argentinien gefunden dass die Blütenfarbe der einzelnen Arten sehr constant ist, dass dieselbe Art rot, violett, weiss blüht, ist absolut ausgeschlossen (cf. Chodat, in Plant. Hassl.). Soweit ich aus dem Beschreibungen Briquet's ersehen kann, hat er diese Form zu phlogiflora (megapotamica var. Tweediana) als forma truncatula gezogen. Sie hat nichts damit zu tun. V. phlogiflora ist hochwüchsiger, mit grosseren Blüten deren Farbe immer lila violett ist, deren Blütenstände sich nach dem Verblühen nicht verlängern sondern kopfförmig bleiben. Ich habe diese Form 8046 in meinem Herbar als 'Briquetiana' bezeichnet und halte sie für den Übergang von V. incisa Hook. zu der V. scrobiculata Griseb. (Symbolae no. 1735). V. incisa Hook. aus der Araucariazone, s/ Br. Uruguay [nur fluss littoral!]; V. scrobiculata = Tucumanzone, 'Alles Flusst!'" I regard Osten's V. briquetiana as V. incisa Hook.

Walpers classifies V. phlogiflora in his Section Verbenaca, Subsection, Inermes, Group Foliosae, Subgroup Macranthae, and Secondary Subgroup Melindres, with ten other species. He keeps V. tweediana Niven as a distinct species.

Verbena phlogiflora has been collected along riverbanks and the margins of woods, in ravines, wet depressions in the mountains, hedges, river woods, shrubby dry fields, fields and high places, thickets among fields and thickets along small streams, in shrubby campos and virgin woods, at the edge of aqueducts, on forest edges, among grasses in water of swamps, and scattered on sunny hills. Rosengurt found it "en zanjás herbosas", while



Parodi (1943) says "habita en los cerros". Mosén encountered it on stream banks and "sparse in other wet places", while Jørgensen says of it "common among trees". It has been collected at altitudes of 600 to 1600 meters, blooming in every month of the year except June, fruiting in February. It was introduced into cultivation in England in or before the year 1836. Troncoso (1937) reports it cultivated in Argentina. Common names recorded for it are "camaradinha", "margarita", "Mr. Tweedie's vervain", and "Tweedie scarlet vervain" -- the last-mentioned being most inappropriate, since, according to Osten, the flowers are always lilac-violet in color.

The relation of the pistil length to the size of the pollen-grains is discussed by Covas & Schnack (1945). The plant is said to be used for ornament by the local inhabitants in Misiones. Hybrids have been reported with V. peruviana (L.) Britton [=xV. corrupta Moldenke] and with V. tenuisecta Briq. [=xV. dissoluta Moldenke].

Nair & Rehman (1962) describe the pollen-grains of V. phlogiflora as "3-zonicolporate, spheroidal (diameter 47 $\mu$ ; range 42--53  $\mu$ ). Colpi ends acute, margin slightly wavy, membrane faintly crustate. Apocolpium diameter 8.4  $\mu$ . Endocolpium faint (oblongate). Exine 2.8 $\mu$  thick. Exine thin for a small width marking a 'pseudocolpus' round the colpus. Ectine almost as thick as endine, granulate (faint LO). Taking together all the species studied, significant differences have been noticed in the nature of the pseudocolpus." These authors apparently based these observations on a specimen cultivated at Lucknow, India -- "NMG 16511; Sl. 2726". Since I have not seen this specimen, I am not sure that it really represents V. phlogiflora -- xV. hybrida Voss is much more likely.

It should be noted here that the following names, for which one might look in the synonymy of this species, do not belong here: V. arraniana Hort. = V. incisa Hook.; V. megapotamica var. truncatula Briq. = V. incisa Hook.; V. megapotamica var. truncatula f. pinnatiloba Kuntze = V. pinnatiloba (Kuntze) Moldenke; V. phlogiflora Chod. = V. hasslerana Briq.; V. phlogiflora var. mucilenta Schau. = V. megapotamica Spreng.; V. phlogiflora var. mucilenta Schau. = V. megapotamica Spreng.; V. phlogiflora var. γ Cham. = V. megapotamica Spreng.; V. phlogiflora α glabra Walp. = V. megapotamica Spreng.; V. phlogiflora φ mucilenta Schau. = V. megapotamica Spreng.; and V. tweediana var. grandiflora Martens = V. incisa Hook.

Herbarium material of V. phlogiflora has been misidentified and distributed under the names V. arraniana Hort., V. bonariensis L., V. chamaedrifolia A. L. Juss., V. hasslerana Briq., V. hirta Spreng., V. marrubioides Cham., V. megapotamica Spreng., V. melindres Gill., V. peruviana (L.) Britton, and V. phlogiflora mucilenta Schau.

On the other hand, the F. Faust s.n. [10/25/37], distributed as V. phlogiflora, is actually V. canadensis (L.) Britton; Collector undesignated s.n. [17 Juni 1908] is xv. hybrida Voss; Widgren s.n. [1845] is in part V. kuntzeana Moldenke; Stellfeld s.n. [Herb. Mus. Paran. 1634] is V. montevidensis Spreng.; and Fiebrig 6305 is V. rigida Spreng. The Lindman A.1853 cited below was identified by Briquet as "Verbena megapotanica var. tweediana Kuntze forma". Briquet (1904) cites Balansa 1024 and 1024a from Paraguay. He places V. megapotanica var. macilentata Schau. (in part) in the synonymy of V. phlogiflora. Cabrera & Dawson (1944) reduce V. phlogiflora to synonymy under V. megapotanica, while Troncoso (1937) reduces V. megapotanica to synonymy under V. phlogiflora! The Vattuone & Bianchi 60 collection, cited below, does not look at all typical and may prove to represent another taxon.

It should perhaps be noted here that the names published in Loud., Hort. Brit. Suppl. 2: 680 (1839) are sometimes accredited to W. Baxter, but apparently should be accredited to G. Don. Also, Loud., Ladies' Fl.-Gard. Ornan. Perenn. 2: pl. 91, fig. 4 (1841) is marked "fig. 3" in the legend of the New York Botanical Garden's copy of this work.

In all, 197 herbarium specimens and 7 mounted illustrations and photographs have been examined by me.

Citations: CUBA: Havana: Fortún & Arias 7066 (Es); Herb. Cub. Estac. Cent. Agron. s.n. [Nov. 1909] (Es). BRAZIL: Minas Gerais: Bello 178 [Herb. Jard. Bot. Rio Jan. 46306] (N); Black 219m [Herb. Jard. Bot. Rio Jan. 50357] (N); P. Clausen 625 (N, N, S), s.n. [Aug.--April 1840] (Br, Br, Br), s.n. (Ja--46524); Collector undesignated s.n. [Pocos de Caldas] (Ja--46602); A. P. Duarte 484 [Herb. Jard. Bot. Rio Jan. 58832] (N), s.n. [Herb. Jard. Bot. Rio Jan. 60518] (N); Herb. Saldanha 8663 (Ja--46541); F. C. Hoehne s.n. [Caldas, Jan. 10, 1919] (N, Sp--2787), s.n. [Pocos de Caldas, March 27, 1920] (Sp--3846), s.n. [Miguel Bernier, Jan. 27, 1921] (N, Sp--5170); Kuntze s.n. [Contendas, Dec. '92] (N, N); Lindberg 215 (Dr, S); Mosén 639 (S), 965 (S), 3997 (S); Motta s.n. [Pocos de Caldas, Nov. 1881] (Ja--46537, Ja--46538); Regnell I.311 [19/1/1861] (S), I.311 [11/12/1862] (W--1323115), I.311 [17/12/1862] (S), I.311 [14/10/1864] (S, S), I.311 [21/10/1864] (W--209640), I.311b (S); Stephan s.n. [1843] (Br); Widgren 1209 (Br), s.n. [1845] (Br, Ja--46583, Lu, S). MATTO GROSSO: Lankester s.n. [June 27th 1937] (K). PARANÁ: Braga 1030 (W--2369356); Braga & Lange 255 (W--2369348); Collector undesignated s.n. [Campos Gerais, 1874] (Ja--46603); Dusén 10745 (S), 15040 (S), s.n. [Itapurú, 18/11/1908] (S), s.n. [1914--16] (S); Hatschbach 3067 (Sm), 3138 (Sm), 5522 (Mm), 7246 (Ca), 7369 (Ca); Princesa Imperial s.n. [Campos Gerais, Dec. 1884; Herb. Saldanha 8789] (Ja--46543).

Rio Grande do Sul: Henz 35460 (Lg, N), s.n. [Rambo 35460] (N); Jürgens 13 (B, Ja--17762), 411 (B); Malme 1502 (S), 1502a (S); Moldenke & Moldenke 19690 (Es, N, Ot, Sm, Ug); Rambo 9767 (Sp--50985), 32817 (S), 36419 (S), 37693 (N), 39020 (N), 52102 (N, W--2102324), 52158 (N, W--2102354); Reineck & Czernak 577 (Po--63877). Santa Catarina: Dusén 17848 (S); Fischer 9 [Herb. A. Lutz 2054] (Hk); Hatschbach 4513 (Sm); F. Müller 91 (Ja--46530); Reitz 3404 (N), 4523 [Herb. Reitz 4741] (Le, S, W--2141739). São Paulo: Bailey & Bailey 886 (Ba), 920 (Ba, Ba); Brade 7002 (N, Sp--6724), 12395 (Ja--46496); Campos Porto 2982, in part [Herb. Jard. Bot. Rio Jan. 32604] (B, N), 2985 [Herb. Jard. Bot. Rio Jan. 32607] (N); Collector undesignated 257-264 (Ja--46593); M. Kuhlmann s.n. [Umarama] (K, Sp, Sp--32386); Leite 4007 (El); Löffgren & Edwall s.n. [Sapucaí, Jan. 14, 1893; Herb. Com. Geogr. & Geol. 2115] (N, Sp--15734); Pickel 1274 (N, Sf); Usteri s.n. [Villa Prudente, Dec. 9, 1906] (N, Sp--15727); Weir 436 (Bm). State undetermined: Glaziou 16289 (Br); Herb. Bot. Mus. Lund. s.n. (Lu); Sellow s.n. [Macbride photos 34351] (Ir--photo of type, N--photo of type). PARAGUAY: Hassler 4585 (Ca--935081, N, S), 10083 (Cb, V), 11312 (Bm, Ca--929878, Cb, N, N--photo, V, Z--photo); Jürgensen 3769, in part [Herb. Osten 22249] (Ug); Lindman A.1853 (S, S); T. Rojas 254 (B), 1466 [Herb. Osten 7907] (N, Ug), 1882 [Herb. Hort. Parag. 10066; Herb. Osten 13571] (Ug). URUGUAY: J. Ball s.n. [prope Paysandu, 1882] (C); Berro 5583 (N); Osten 5389 (Ug); Otto s.n. [Montevideo] (Cp); Rosengurt B.4083 (N). ARGENTINA: Buenos Aires: Archer 4573 (W--1691993); Boffa 148 (Ca--164803); Burkart 4331 [Herb. Osten 22470] (N, Ug); Cabrera 2431 (N, N), 3401 (Sp--38947); Reutzell s.n. [Herb. Inst. Bot. Darwinion 16063] (N); Rodriguez V.566 (Bm, S). Corrientes: Cipolla s.n. [Parodi 12882] (N); T. Meyer 11346 (N), 11486 (N); Parodi 12510 (N); Ruiz Huidobro 3968 (N), 4052 (N), 4085 (N), 4173 (Gg--352679, N, N), 4268 (N), 4408 (Gg--353276, N), 4429 (N). Entre Ríos: Cabrera & Corte 9610 (W--2197990). Formosa: I. Morel 2768 (N). Misiones: Bertoni 1550 (N), 1847 (Au--122468, N), 1937 (N, Ok, Rf); Ekman 1979 (Mi, N, S); Lilliesköld s.n. (S); Montes 1747 [5] (N, Si), 2064 (N, Ok); D. Rodriguez 530 [Herb. Inst. Miguel Lillo 31561] (N); Salway 2127 (N); A. G. Schulz 6894 (Z); G. J. Schwarz 610 (Bm), 1282 (N), 1412 (Au--122407, N), 2039 (Bm), 2345 (N, St), 2615 (N, Rf), 3192 (N), 3244 (S), 3246 (S), 3367 (N), 3431 (S, S); Vattuone & Bianchi 60 (W--1043508). CULTIVATED: Argentina: O'Donnell 202 [Herb. Inst. Miguel Lillo 95189] (Ca--165871). Belgium: M. Martens s.n. [h. b. lov. 1839] (Br). Brazil: Etzel s.n. [Herb. Inst. Bot. S. Paulo 38719] (N). Germany: Herb. Martius s.n. [hortus Monac. 1843] (Br). Switzerland: Herb. Hort. Bot. Basil. s.n.

[Aug. 1839] (M, M). MOUNTED ILLUSTRATIONS: Color plate 5, 1837 (N); J. & J. Parkin, *V. tweediana*, color plate (N, N).

VERBENA PHLOGIFLORA f. ALBA Moldenke, *Phytologia* 4: 184. 1953.

Bibliography: Moldenke, *Phytologia* 4: 184 & 183. 1953; Moldenke, *Biol. Abstr.* 27: 1887. 1953; Reitz, *Sellowia* 11: 57. 1959; Moldenke, *Résumé* 110 & 473. 1959.

This form differs from the typical form of the species in having white corollas.

The type of the form was collected by Raulino Reitz (no. 3443) in a campo at Cambajuva, São Joaquim, at an altitude of 1200 meters, Santa Catarina, Brazil, between January 23 and 29, 1950, and is deposited in the Britton Herbarium at the New York Botanical Garden. The plant has been found only in fields and cultivated fields, at altitudes of 10 to 1200 meters, blooming in January and October. Common names reported for it are "canaradinha", "fornosa sem dote", and "jurupeba". Only 3 specimens, including the type, have been examined by me.

Citations: BRAZIL: Santa Catarina: Reitz 1947 (S), 3443 (N--type, S--isotype).

VERBENA PINETORUM Moldenke, *Phytologia* 2: 27--28. 1941.

Bibliography: Moldenke, *Phytologia* 2: 27--28. 1941; Howard S. Gentry, *Carnegie Inst. Wash. Publ.* 527: 222 & 306. 1942; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 1], 19 & 102. 1942; Moldenke, *Alph. List Cit.* 1: 233 (1946) and 2: 498. 1948; H. N. & A. L. Moldenke, *Pl. Life* 2: 44. 1948; Moldenke, *Castanea* 13: 113. 1948; Moldenke, *Phytologia* 3: 132. 1949; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 26, 33, & 199. 1949; Moldenke, *Alph. List Cit.* 3: 677 & 807 (1949) and 4: 1120, 1175, & 1255. 1949; Moldenke, *Phytologia* 3: 451. 1951; E. J. Salisb., *Ind. Kew. Suppl.* 11: 263. 1953; Moldenke, *Résumé* 32, 39, & 473. 1959; Moldenke, *Phytologia* 8: 141 (1961), 8: 473 (1963), and 9: 165. 1963; Moldenke, *Résumé Suppl.* 6: 4. 1963; Moldenke, *Phytologia* 10: 140, 142, & 218. 1964.

Perennial herb, from a crown root; stems slender, sharply tetragonal, bristly-hirsute with whitish hairs about 1 mm. long, much more densely so at the base of the plant; leaves decussate-opposite, 2--3 cm. long; petioles broadly winged, not very distinct from the leaf-blades; leaf-blades chartaceous, uniformly green on both surfaces, deeply pinnatifid-incised, the lower ones often 3-parted and each division again pinnatifid-incised, the uppermost much reduced and simply 3-parted with entire divisions or even oblong or linear and entire, densely hirsute on both surfaces, the larger leaves scabrous with bulbous-based hairs above and very densely white-hirsute beneath, the upper leaves with much more appressed-strigose hairs, especially above; inflorescence spicate, elongate; spikes slender, to 21 or more cm. long, loosely many-flowered (dense in bud and during anthesis, the rachis later elongating considerably), not glandular; peduncles slender, sharply tetragonal, 2--3 cm. long, hirsute like the stems; rachis also tetragonal and densely hirsute; bractlets lanceolate, about 4 mm. long,

attenuate at the apex, rather densely strigose-pilose, about equalling the calyx in anthesis and fruit; calyx tubular, 3.5--4 mm. long, densely strigillose; corolla hypocrateriform, showy, blue or pale-blue to blue-violet or violet, 10--11 mm. long, the tube 7 mm. long or longer, much surpassing the calyx, the limb large and spreading, to 15 mm. wide; cocci very sparsely scaberulous on the commissural face.

The type of this species was collected by Howard Scott Gentry (no. 1522) in pine flats, transition habitat, at Sierra Charuco, Río Fuerte, Chihuahua, Mexico, on July 22, 1935, and is deposited in the Shreve Herbarium at the University of Arizona. The species has been found on open hillsides, rocky limestone mountains, and rolling oak hills, in fields and woods, and on pine flats, at altitudes of 730 to 3000 meters, flowering from June to October, and fruiting in June, July, September, and October. Gentry encountered it on dry gravel slopes, on open pine slopes in the transition zone, and "scarce on dry gravel benches and slopes". He calls it a "Perennial caespitose herb, with blue flowers in summer. Occurs infrequently in Sierra Charuco and Canelo." He cites his no. 557 as being the same taxon, but this collection is regarded by me as representing V. canescens H.B.K.

Material of V. pinetorum has been misidentified and distributed in herbaria under the names V. menthaefolia Benth., V. neomexicana (A. Gray) Small, V. neomexicana var. xylopoda Perry, V. officinalis L., V. xutha Lehm., Berberna neomexicana (Gray) Small, and Verbenia xutha Lehm. It should be noted that L. I. Davis regards the Lundell 5047 and Edwards 49, cited below, as V. neomexicana. However, Kearney keys the two species apart as follows:

Corolla-tube about 4 mm. long, slightly to moderately surpassing the calyx, the limb 4--10 mm. wide; nutlets usually densely white-scaberulous on the commissural face....V. neomexicana.  
Corolla-tube 7 mm. long or longer, much surpassing the calyx, the limb to 15 mm. wide; nutlets very sparsely scaberulous on the commissural face.....V. pinetorum.

Verbenia pinetorum, however, is very closely related to the puzzling and apparently very variable V. menthaefolia Benth. and more study is needed to clarify this complex. Perry annotated Edw. Palmer 356 (originally distributed as V. officinalis) in the Gray Herbarium, United States National Herbarium, and the herbarium of the Missouri Botanical Garden as V. menthaefolia and E. W. Nelson 6096 as "Aff. V. Halei or V. xutha". The latter collection has had its number changed to "6696" on the label, but seems to have been "6096" in two places on the sheet before.

In all, 27 herbarium specimens, including the type, and 2 mounted photographs have been examined by me.

Citations: ARIZONA: Cochise Co.: Howard S. Gentry 3382 (Ak--23259). Pima Co.: S. L. Berry s.n. [Old Baldy, Aug. 28, 1904] (Gg--31468). MEXICO: Chihuahua: Howard S. Gentry 1522 (Fs--type, Ge--isotype, I--isotype, N--photo of type, Z--photo of type), 1758

(Ge), 1923 (Ca--576767, Fs, Ge, Hp, I). Durango: Edw. Palmer 356 (Ca--104835, N, W--304178). Nuevo León: M. T. Edwards 49 (Au, Au); E. W. Nelson 6096 [6696] (W--347325); S. S. White 1577 (Tu--35530). San Luis Potosí: C. L. Lundell 5047 (Au, Au, Dp, Fs, Lh, Mi, N); F. W. Pennell 17535 (Me). Sonora: F. W. Pennell 19598 (W).

VERBENA PINNATILOBA (Kuntze) Moldenke, *Phytologia* 2: 28. 1941.

Synonymy: Verbena megapotamica f. 2 pinnatiloba Kuntze, *Rev. Gen. Pl.* 3 (2): 256. 1898. Verbena megapotamica var. tweediana

f. pinnatiloba Kuntze ex Moldenke, *Phytologia* 2: 28, in syn.

August 26. 1941. Verbena megapotamica var. pinnatiloba Kuntze ex Moldenke, *Suppl. List Invalid Names* 9, in syn. August 31. 1941.

Bibliography: Kuntze, *Rev. Gen. Pl.* 3 (2): 256. 1898; Moldenke, *Phytologia* 2: 28. 1941; Moldenke, *Suppl. List Invalid Names* 9. 1941; Moldenke, *Alph. List Invalid Names* 48. 1942; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 1], 41 & 102. 1942; Moldenke, *Alph. List Cit.* 2: 627. 1948; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 99, 106, & 199. 1949; Moldenke, *Phytologia* 3: 134 & 136 (1949) and 3: 289. 1950; E. J. Salisb., *Ind. Kew. Suppl.* 11: 262. 1953; Moldenke, *Résumé* 118, 120, 128, 369, & 473. 1959; Moldenke, *Résumé Suppl.* 3: 15 (1962) and 6: 11. 1963; Moldenke, *Phytologia* 10: 133. 1964.

Herb, 30--70 cm. tall; stems creeping, somewhat branched; corolla varying from blue to violet or purple. Kuntze's original description is "Folia superiora inciso-dentata, inferiora pinnatifida."

The type of this species was collected by Carl Ernst Otto Kuntze in southern Paraguay in September, 1892, and is deposited in the Britton Herbarium at the New York Botanical Garden.

The species has been collected at the edge of arroyos, while Schulz says that it is rather abundant in low wet soil. It has been found in anthesis from January to May and in September, in fruit in September. Material has been misidentified and distributed in herbaria as V. incisa Hook.

In all, 15 herbarium specimens, including the types of all the names involved, and 4 mounted photographs have been examined by me.

Citations: PARAGUAY: Kuntze s.n. [Stud-Paraguay, IX.92] (F--photo of type, N--type, N--photo of type, Si--photo of type, W--701063--isotype, Z--photo of type); T. Rojas 12524 (Bm). URUGUAY: Berro 5570 (N). ARGENTINA: Chaco: A. G. Schulz 1467 (N, N). Corrientes: Ibarrola 341 (Ca); Ruiz Huidobro 2105 (Bm, Gg--352675, N, S), 2199 (Gg--353219, N), 4743 (N). Misiones: Ruiz Huidobro 4689 (N).

VERBENA PLATENSIS Spreng. in L., *Syst. Veg.*, ed. 16, 2: 748. 1825.

Synonymy: Verbena teucroides Gill. & Hook. in Hook., *Bot. Misc.* 1: 167. 1829. Verbena scordioides Cham., *Linnaea* 7: 269.

1832. Verbena tenerioïdes Gill. & Hook. ex C. Gay, Hist. Fis. Chile Bot. 5: 18, sphalm. 1849. Verbena nivenii Hort. ex Vilm., Fl. Pl. Terre, ed. 1, 938. 1865. Verbena teucroioides Gill. & Arn. ex Rttmpler in Vilm., Illustr. Blumeng., ed. 1, 1263. 1873. Verbena tenerioïdes Gill. & Hook. ex Briq. in Engl. & Prantl, Nat. Pflanzenfam. 4 (3a): 147. 1894. Verbena nivenii Haage & Schmidt, Cat. Général 93, in syn. 1898. Verbena chamaedryfolia f. foliosae Chod., Bull. Herb. Boiss., sér. 2, 2: 818. 1902. Verbena platensis var. latiuscula Briq., Arkiv Bot. Stockh. 2 (10): 10. 1904. Verbena paraguariensis Briq. in Chod. & Massler, Bull. Herb. Boiss., sér. 2, 4: 1055, in syn. 1904 [not V. paraguariensis Moldenke, 1941]. Verbena pratensis Beale, Chron. Bot. 5: 517, in not. 1939. Verbena teucroioides x tweediana Hort. ex Moldenke, Suppl. List Invalid Names 10, in syn. 1941. Glandularia platensis (Spreng.) Schnack & Covas, Darwiniana 6: 475. 1944. Verbena teucroioides Gill. ex Rosengurtt, Estud. Prad. Nat. Urug. 5: 395. 1946. Verbena candidissima Stecklers ex Moldenke, Alph. List Invalid Names Suppl. 1: 23, in syn. 1947. Verbena tencricides Lossen ex Moldenke, Alph. List Invalid Names Suppl. 1: 27, in syn. 1947. Verbena teneroides Gill. & Arn. ex Moldenke, Alph. List Invalid Names Suppl. 1: 27, in syn. 1947. Verbena teucroioides Hook. ex Moldenke, Alph. List Invalid Names Suppl. 1: 27, in syn. 1947. Verbena teucroioides var. platensis Macbr. ex Moldenke, Alph. List Invalid Names Suppl. 1: 27, in syn. 1947. Verbena teneroides Gill. & Hook. ex Moldenke, Résumé 376, in syn. 1959. Verbena revenii Hort. ex Moldenke, Résumé Suppl. 6: 11, in syn. 1963.
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